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Round Table

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THE BOMB AND THE NEXT WAR

An NBC Radio Discussion by
THORFIN HOGNESS, LOUIS RIDENOUR
and HAROLD UREY

Including

REPORT ON
"GRAND CENTRAL TERMINAL"
By LEO SZILARD

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The Bomb and the Next War

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MR. UREY: Recently a book on the atomic bomb has been published by a distinguished English scientist, Professor P. M. S. Blackett of the University of Manchester. This book, known as *Fear, War, and the Bomb,* plays down the atomic bomb.[1] The conclusions arrived at by Dr. Blackett disagree very considerably with those which have been reached by other scientists in the years since the war. We wish to review some of the things Dr. Blackett says and to review the whole problem of the bomb.

Hogness, why should we scientists concern ourselves about what Professor Blackett in England says about the atomic bomb?

MR. HOGNESS: First, perhaps, I should say something about Professor Blackett's qualifications. He is a professor of physics at the University of Manchester. He received the Nobel Prize for his work on cosmic rays. He therefore has great prestige scientifically. On the other hand, he is known to be very far on the Left, politically. We are not so sure, therefore, of his qualifications to discuss the political aspects of the problem.

Now, science has a responsibility to the public. It has prestige. The public wants conclusions even though it cannot always follow the arguments. It expects unbiased objectivity and intellectual honesty. We believe that Professor Blackett misuses his prestige as a scientist. He harms science and the cause of democracy, and perhaps he will harm the Russian people, too, in that he will cause the Russians to be rash and perhaps to precipitate some very serious incident.

MR. UREY: Ridenour, why should the American people be concerned about a single book written in England which says that the atomic bomb would be of minor importance in a war between Russia and the West?

MR. RIDENOUR: We should be concerned with this book because of the importance of the issue. Blackett depreciates some of the military tools on which we put our greatest reliance for the strength and the security of this nation. If his views are right, rather than those which are urged by the majority of American and British scientists, then this book has important implications on the organization of our military services, on our willingness to make expenditures for various classes of armaments, and on such subjects as that of universal military training. Further, he suggests rather that the negotiations for the

[1] P. M. S. Blackett, *Fear, War, and the Bomb* (New York: Whittlesey House, 1948).

international control of atomic energy which have so far been carried on have been wrong-headed in their approach to the problem. In effect, he suggests that we are taking this particular subject a little too seriously.

MR. UREY: The ROUND TABLE invited Professor Blackett to appear on this program, but we are sorry that he found it impossible to do so. In view of this, it is necessary for us to tell you what Professor Blackett says. He says that the atomic bomb is overrated and that it is not the absolute weapon, for two reasons: First, analysis of the bombing experience in World War II shows that strategic bombing—that is, an attempt to destroy the industry of a country by aerial attack—is ineffective. And, second, atomic bombs do not add very much to the bombing power of a nation.

Ridenour, you were adviser to the European Air Force in the late war. Will you discuss his contentions in this connection?

MR. RIDENOUR: I disagree with Blackett altogether. He draws his figures and facts from the very good report of the United States Strategic Bombing Survey, which was made after the war by economists and other specialists, and which had for its purpose the evaluation of our strategic bombardment effort in attacking and destroying the German economy.

Now, he draws his figures from this report, to be sure, but he emphasizes those figures in this report which dealt with a period prior to the first of July, 1944. This is the time during which the Royal Air Force of England and our own Air Force were learning the business of strategic bombardment. This is the time during which we had very few aircraft, during which our bombardment effort was sparse and the bombing was inaccurate. It is perfectly true that the results up to this time were small, possibly even negligible. However, fewer than one-third of the total weight of bombs dropped on Germany was dropped during this period which is so carefully explored by Professor Blackett. Two-thirds of all our bombs were dropped after the first of July, 1944. In the three hundred days which followed, we brought the German economy completely to a stop, particularly by the attacks made on the target systems of oil and transportation.

MR. UREY: This evidence was all available when Mr. Blackett published his book last fall, I believe.

MR. RIDENOUR: That is correct. It is even referred to in his book, but he does not draw his argument from it.

MR. HOGNESS: He says, though, that strategic bombing is ineffective. He says that the atom bomb is a strategic weapon. Therefore, he concludes that the atomic bomb is not an effective bomb. He does say that the atom bomb would be useful tactically; that is, that it could destroy airfields and prevent the landing of troops; that it could destroy subma-

ine pens and harbors. But I would not agree with him that it is not a trategic weapon, inasmuch as we could destroy an enemy's oil production, ball-bearing factories, and the ike.

MR. UREY: Of course, he also mentions "overdestruction." I think this s a curious point. If bombs do not cost very much, I do not see any harm n "overdestroying" a target. He says that the atomic bomb is equivalent to two thousand tons of ordinary TNT bombs, a figure which I believe has been agreed with by people in this part of the world. I do not take much comfort that is only the equivalent of two thousand tons of ordinary bombs.

He also does not mention another important phase of the atomic bomb, it seems to me. I saw the second explosion at Bikini. I did not get an opportunity to study the radioactive effects as Dr. David Bradley, who recently wrote *No Place To Hide,* did;[2] but I think that if you followed the newspapers carefully since Bikini, you would realize that these radioactive effects are very serious indeed. If an atomic bomb should be exploded in water off Chicago, or many other cities of this country or Europe, and if the wind carried the radioactive effects into the city, a substantial area would be quite uninhabitable for a long period of time. This is completely neglected by Mr. Blackett.

[2] David Bradley, *No Place To Hide* (Boston: Little, Brown & Co., 1948).

MR. HOGNESS: Another factor which Blackett neglects is complete saturation. It was the attempt of air forces during the war to have a great number of bombers at one time—thousand-bomber raids—so that they could "saturate" an area with bombs to the extent that fire equipment could not put out the fires. In the case of the atom bomb, we have complete saturation. Anyone who has read John Hersey's book *Hiroshima* would really appreciate what this means. All the fire departments were put out, all the hospitals and doctors. There was complete chaos. This was all accomplished, not in the space of a half-hour or something like that, but all within one minute's time, or less.

MR. UREY: I suppose, also, that Blackett has neglected the possibility of carrying many bombs along on a single raid instead of just one, as he seems to imagine the practice would be in the next war.

MR. RIDENOUR: Of course, Blackett also raises the point that the standard propellor-driven subsonic bombers of the present day would be intercepted by defensive fighters if they attempted to carry bombs to strategic targets. The bombers would therefore have to be accompanied by defensive fighters which would require bases near the targets being attacked. He also says that even if the bombers were to operate unescorted, they would require bases within perhaps fifteen hundred miles of their

targets, as they did in the last war. Recent newspaper stories have made it clear, of course, that modern bombers, with or without the technique of air-to-air refueling, which has not satisfactorily been worked out, have at present global range.

Further, with regard to the matter of defense against strategic bombers, the history of World War II has indicated that any new form of attack obtains a local mastery over the defense for a few days at the beginning. In the days in which it was necessary to use ordinary high explosives during such attacks, only a moderate amount of destruction could be produced during these few days. With the atomic bomb, which makes one bomber equivalent to two hundred of the old sort, a tremendous amount of destruction, perhaps an amount which would produce a very profound effect on the course of the war, can be carried out during these early days of low defense efficiency.

MR. HOGNESS: There is another factor which Blackett does not take into account or, at least, which he does not mention much. That is the number of bombs, a matter which is exceedingly important. It makes a great deal of difference in our thinking whether we have twenty-five bombs or two thousand bombs, and people in this country and abroad are so apt to think of *the* bomb as the solution.

MR. RIDENOUR: Another claim which Blackett makes is that the use of atomic bombs by the United States was quite unnecessary, since the Japanese were prepared to surrender in any case. He argues that our hurried use of atomic bombs was, in fact, the first move in the cold war. He believes that we intended to make sure that Japan surrendered to us, and to us alone, so that the Russians should get no credit for the collapse of Japan.

MR. UREY: I might remark that, before it was used on Japan, a committee reviewed this whole question of dropping the bomb. And I would like to say that, in my opinion, the American public is behind any committee which considers such a problem as this, and that the representatives of the American people, our government officials in Washington, are going to make their decisions in accordance with what we, the people, think. They guessed, and I maintain that they guessed correctly, that the people of the United States would approve the use of the bomb on Japan. And I maintain that this was the principal reason why it was used. Mr. Blackett may not like this decision, but I think that he should realize that it was essentially the decision of the people of the United States—you and me.

MR. HOGNESS: Mr. Blackett condemns our use of the bomb. He condemns almost everything we did. He seems to think that everything Russia did was quite all right. Now hindsight is very much easier than foresight, and he can then predict by hindsight that we should not have

used the atom bomb. We did not know at the time how well prepared the Japanese were. We had every reason to believe that the taking of the home islands of Japan would be a very difficult task. We found later that there were five thousand Kamikazes—suicide planes—available; and I can imagine the tremendous destruction five thousand Kamikazes could have done to our landing troops. We believed that we saved lives—Japanese, American, and Russian lives—by the dropping of the bomb.

MR. RIDENOUR: Having said that the United States initiated the cold war by the dropping of the bomb, Blackett argued that the American "Baruch Plan" for the control of atomic energy was another move in the cold war. Blackett says that the discussions on the schemes for international control disclosed a deliberate attempt by the West to deprive Russia of an opportunity to raise the economic standard of living of its people through the development of the industrial uses of atomic energy. Therefore, Blackett says, Russia was right to refuse to join the Baruch Plan.

MR. UREY: We might review briefly some of the points of the American proposals which were put forward by Mr. Baruch.

It was proposed that there be an Atomic Development Authority, under the United Nations, which would have entire control and, in fact, ownership of all atomic energy activity as a very important part of the whole scheme. In the second place the plan proposed that there was to be an inspection force, also under the United Nations, which would be able to detect clandestine activities of any kind. Finally, Mr. Baruch introduced the veto question, suggesting that the veto in the Security Council should not be applied to activities of the Atomic Development Authority. These various proposals were extended and modified slightly during the long time they were discussed; but this, essentially, is the important part of this proposal. I think that perhaps it would be a good idea if we mentioned the possibility of industrial use of atomic energy.

MR. HOGNESS: I think that Blackett is rather hard put to it to defend the Russian position. He maintains that the Baruch Plan would prevent the Russians from developing atomic power for use, say, in Siberia. I think that this is a lot of nonsense. It is quite true, I think, that we shall have atomic power on a pilot-plant basis within three years, maybe five years; but large installations are a long time off. It would seem to me that, had the Russians accepted the Baruch Plan, they could have advanced faster than they can at the present time.

MR. RIDENOUR: One of Blackett's other reasons for regarding the United States' atomic control plan as a plot is that he says it would prevent the Russians from keeping secret the

location of their arms factories and other important economic installations without, at the same time, giving them any corresponding military compensation in return. This is a rather curious argument because it has importance only if it is admitted that strategic bombardment is effective on targets once their location is known—something which Blackett has earlier denied.

MR. UREY: In fact, the argument goes the way he wants it to go.

MR. RIDENOUR: At every stage.

MR. UREY: At every stage, yes.

MR. HOGNESS: Blackett really says he wants us to go along for the next ten years. He has a way out, and it is rather questionable, it seems to me. He says that there will be no war between the United States and Russia in the next few years. The reasons he gives for this are that it would be overwhelmingly to the Russians' advantage to avoid a war, and that America, for a number of reasons, will not precipitate one. Now, what he wants us to do is to give Russia time to develop bombs, submarines, underwater weapons, and air defense. He says that if we will wait for ten years—the time he puts up—then Russia will hold all the cards. We could negotiate with Russia in the meantime, however, but he implies that we would have to do so on Russia's terms. It would be a bargain between us.

Now let us imagine what these terms would be. I am sure that the Russians would ask that we keep our hands off Europe and allow Russia to take over western Europe as she did Czechoslovakia and to put the peoples of Europe under Russian bondage. We should then be selling the European signers of the North Atlantic Pact down the river, or we would be forced into another war. Now, what are we going to do in the meantime to try to prevent such a situation from arising?

MR. UREY: It seems to me, after reviewing the various things said by Dr. Blackett in this book, that he has selected data in accordance with his particular thesis. I think that this is true in regard to the strategic bombing survey. I think that it is true in regard to quite a number of other things. And, so far as I am concerned, it seems to me that it is possible to accuse Mr. Blackett, very nearly at least, of intellectual dishonesty. By "intellectual dishonesty" we mean that a man selects his data in such a way as to support a certain conclusion and that he does not include those types of arguments which may not be friendly to that argument. For this reason I think that we can drop the discussion of Dr. Blackett's book. It is probably the best presentation of the Communist point of view on the argument on atomic energy which we have had.

MR. HOGNESS: But, before we do so, I think that we should mention one fact; that the United States is now doing exactly what Blackett

:commends. We are drifting along nd waiting until the Russians get ıe atom bomb. Blackett suggests ıat we maintain the status quo. He mplies that the critical period will be ome ten years hence and that Russia vill then have plenty of bombs. He ays to us, "Don't worry—the bomb s no good anyway."

Mr. Ridenour: I agree that we hould forget about Professor Black-tt's book and should take up the resent situation.

What should we do today? I think hat it might be argued that we hould now withdraw the Baruch pro-osal from the United Nations. We annot sincerely or sensibly leave it here, for the situation is entirely dif-erent from the situation which ob-ained when it was originally intro-luced. I think that there is some loubt whether the Senate of the Jnited States would ratify this plan f it were presented for ratification s a result of approval of all the other nembers of the United Nations. It night be quite embarrassing for the enate to be so presented with this lan.

Mr. Hogness: It seems to me that ve ought to ratify the North Atlantic 'act and join in the creation of an Atlantic Union. This would give us preponderance of military power nd let us guarantee a democratic orm of government to every state in ıe Atlantic Pact.

Mr. Urey: I agree with you, Hog-ess. During the nineteenth century this country grew great in an atmosphere of relative security, separated on both sides from the rest of the world by broad oceans which were very important defense posts at that time. What has happened to us in the last fifty years is that these defenses have become unimportant. This is the disturbing fact which we as a country must face at the present time. It would be very nice to recover some of that measure of political security which we had in the nineteenth century. Perhaps we will never get as much of it as we had then, but this idea of an Atlantic federal union, it seems to me, would come nearer to that former security than anything else which I have heard proposed. It would mean that we would set up a federal government over and above the governments adhering to the Atlantic Pact. This government would have executive, legislative, and judicial powers, the right of taxation, and a certain limited sovereignty, including, of course, the control of the military and all foreign affairs. This, it seems to me, would give us a very considerable amount of political security, though, of course, it is not the ideal—which would be, finally, government over the whole globe.

Mr. Hogness: Well, Urey, how do you think that this would deter the Russians?

Mr. Urey: I have observed that in some cases wars have been avoided over long periods of time because countries of very unequal potential

power are side by side. The strong one does not attack because it does not need to, and the weak one does not attack because it cannot. It seems to me that the situation which is really dangerous in the world at the present time is that we have very nearly an equal balance of power between two groups. If we could only make it completely unequal, the possibility of war might be very substantially decreased, and I am sure that I know which side I would like to have very strong. I, myself, might exert some influence in preventing the stronger one from making the attack.

MR. HOGNESS: Do you think that this would prevent a Russian coup in any one of these countries?

MR. UREY: Yes. Of course, we would have an Atlantic federal union which would guarantee to all the member countries a democratic form of government, and if some action of the sort which happened in Czechoslovakia was taken, the federal union would have a right to say something about it. No such business as Czechoslovakia could take place in the individual states of the United States without having serious difficulty.

MR. RIDENOUR: Well, gentlemen, this is a very large and ambitious goal, but I think that we ought to ask ourselves whether there are not other smaller, simpler things we can do in the face of the present situation and in the light of our long-range goals.

For example, Senator McMahon, the author of the United States' Atomic Energy Act, has recently questioned whether the Congress and the people should not have a full knowledge of the extent of our stockpile of atomic-bomb material. He expresses his profound discomfort at sitting in the Senate of the United States and making important decisions regarding policy in ignorance of this extremely important matter. How would it be if we told our people, and the Russian people as well, how many atomic bombs we have today? This might have the result of enabling them to make a much more realistic assessment of our position in this matter than they can now. It might prevent a catastrophe resulting from a miscalculation. Further, since the American people and the American government, in effect, do not know how many atomic bombs we have, how can they make good judgments on such matters as the wisdom and the necessity of universal military training; the balance of government expenditures between the ground Army, the Air Force, and the Navy; and similar matters? How can they even know whether the work of the Atomic Energy Commission is successful or is a failure?

I heard recently of two guesses made by scientists with no firm knowledge in the matter, but with a general knowledge of the surrounding circumstances, regarding the number of atomic bombs the United States now has. A Canadian scientist guessed that we might have a stockpile of twenty-five bombs; a distin-

guished American scientist guessed that we had a stockpile of two thousand. This factor of one hundred which separates the estimates of people who are at least minor authorities in this matter is a measure of the ignorance of the American people in this important affair. As a matter of fact, the internal energy monopoly we now have, and the secrecy which goes with it, were predicated on the attainment of an early international control of atomic energy, the basic pattern of which we outlined earlier. It was planned that this would then be followed by a relaxation of secrecy and the detailed controls, and a more normal scientific and technical development. Such international arrangements now seem indefinitely remote, and it seems to me that we should therefore review from the beginning our domestic control situation and what should be done about it.

MR. UREY: I agree with you, Ridenour. I think that that is very true.

MR. HOGNESS: I think that we need to reduce the amount of secrecy around atomic power and to turn it into an industry like any other. Under the present policy, the American people will never have the maximum amount of atomic energy possible with able Americans working in atomic energy or atomic power. The best engineering brains in America are in other industries where they can make money. Under the present secrecy arrangement, David Lilienthal says, American corporations are not interested in atomic energy. With the present secrecy arrangements and a monopoly by the government, no one can make any money. No one can make a professional reputation by work in atomic energy today, for research papers are not easily published and reputations therefore cannot be made. The result is that almost all the best men have quit work on atomic energy. The American people ought to know and understand the meaning of that fact.

MR. RIDENOUR: Another thing which we might do now—a very simple thing—is to release to the public a report on the Bikini tests. This has been proposed time and again, but it has not yet been done. It would be important in enabling people to form an informed opinion about the uses of atomic energy in warfare, which have been so thoroughly discussed from widely divergent standpoints.

MR. UREY: Of course, I think that what you propose, Hogness, in regard to decreasing the amount of secrecy around our atomic-energy program is possible only in an atmosphere of considerably more security than exists at the present time. And what I was saying a moment ago about the federal Atlantic union would, it seems to me, give us that security.

MR. HOGNESS: Of course, I was implying that when I spoke.

MR. UREY: That is right. I am sure that you agree with me.

We have had an interesting discussion in regard to this problem, and I think it might be well to sum up our conclusions. In the first place, I think that we are all agreed that Dr. Blackett has presented a book which is interesting, but which, in many ways, is a good apology for the Communist point of view in regard to the matter. I think that it can hardly be trusted to give us a good summary of the atomic-energy situation. On the positive side, it seems to us that we should review our whole position in regard to the atomic-energy problem and how it is handled in this country. Such a review should include both the method of control of domestic peacetime uses of atomic energy and the international control of this important power.

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REPORT ON "GRAND CENTRAL TERMINAL"

By LEO SZILARD

Professor Szilard, professor of biophysics in the Institute of Radiobiology and Biophysics at the University of Chicago, was instrumental in persuading President Franklin Roosevelt to take an interest in the development of the atomic bomb. With Professor Enrico Fermi, Professor Szilard directed the early phases of the work on chain reaction at Columbia University; and, later, he and Professor Fermi designed the uranium pile at the University of Chicago, where the first self-sustaining chain reaction was produced.

YOU can imagine how shocked we were when we landed in this city and found it deserted. For ten years we were traveling through space, getting more and more impatient and irritable by our enforced idleness; and then, when we finally land on the earth, it turns out—as you have undoubtedly heard—that all life is *extinct* on this planet.

The first thing for us to do was, of course, to find out how this came to pass and to learn whether the agent which destroyed life—whatever it may have been—was still active and perhaps endangering our own lives. Not that there was very much that we could do to protect ourselves, but we had to decide whether we should ask for further expeditions to be sent here or should advise against them.

At first we thought we were confronted with an insoluble enigma. How could any virus or bacterium kill *all* plants and *all* animals? Then, before a week had passed, one of our physicists noticed—quite by accident—a slight trace of radioactivity in the air. Since it was very weak, it would not in itself have been of much significance, but, when it was analyzed, it was found to be due to a peculiar mixture of quite a large number of *different* radioactive elements.

At this point, Xram recalled that, about five years ago, mysterious flashes had been observed on the earth (all of them within a period of one week). It occurred to him that perhaps these flashes had been uranium explosions and that the present radioactivity had perhaps originated in those explosions five years ago and had been initially strong enough to destroy life on the planet.

This sounded pretty unlikely indeed, since uranium is not in itself explosive, and it takes quite elaborate processing to prepare it in a form in which

it can be detonated. Since the earth-dwellers who built all these cities must have been rational beings, it is difficult to believe that they should have gone to all this trouble of processing uranium just in order to destroy themselves. But subsequent analysis has in fact shown that the radioactive elements found in the air here are precisely the same as are produced in uranium explosions and also that they are mixed in the ratio which you would expect had they originated five years ago as fission products of uranium. This can hardly be a chance coincidence, and so Xram's theory is now generally accepted up to this point.

When he goes further, however, and attempts to explain why and how such uranium explosions came about, I am unable to follow him any longer. Xram thinks that there had been a war fought between the inhabitants of two continents, in which both sides were victorious. The records show, in fact, that the first twenty flashes occurred on the Eurasic continent and were followed by five (much larger) flashes on the American continent, and therefore, at first, I was willing seriously to consider the war theory on its merits. I thought that perhaps these two continents had been inhabited by *two different* species of earth-dwellers who were either unable or unwilling to control the birth rate and that this might have led to conditions of overcrowding, food shortage, and to a life-and-death struggle between the two species. But this theory had to be abandoned in the face of two facts: (1) the skeletons of earth-dwellers found on the Eurasic continent and on the American continent belong to the *same* species and (2) skeleton statistics show that no conditions of overcrowding existed on either continent.

In spite of this, Xram seems to stick to his war theory. The worst of it is that he is now basing all his arguments on a single, rather puzzling but probably quite irrelevant observation recently made in our study of "Grand Central Terminal."

When we landed here, we did not know where to begin our investigations, and so we picked one of the largest buildings of the city as the first object of our study. What its name "Grand Central Terminal" had meant we do not know, but there is little doubt as to the general purpose which this building had served. It was part of a primitive transportation system based on clumsy engines which ran on rails and dragged cars mounted on wheels behind them. For over ten days now we have been engaged in the study of this building and have uncovered quite a number of interesting and puzzling details.

Let me start with an observation which I believe we have cleared up, at least to my own satisfaction. The cars stored in this station were labeled—we discovered—either as "Smokers" or as "Nonsmokers," clearly indicating some sort of segregation of passengers. It occurred to me right away that there may have lived in this city two strains of earth-dwellers, a more pig-

mented variety having a dark or "smoky" complexion, and a less pigmented variety (though not necessarily albino) having a fair or "nonsmoky" complexion.

All remains of earth-dwellers were found as skeletons, and no information as to pigmentation can be derived from them. So at first it seemed that it would be difficult to obtain confirmation of this theory. In the meantime, however, a few rather spacious buildings were discovered in the city which must have served some unknown and rather mysterious purpose. These buildings had painted canvasses in frames, fastened to the walls of their interior—both landscapes and images of earth-dwellers. And we see now that the earth-dwellers fall, indeed, into *two* classes—those whose complexion shows strong pigmentation (giving them a smoky look) and those whose complexion shows only weak pigmentation (the nonsmoky variety). This is exactly as expected.

I should perhaps mention at this point that a certain percentage of the images discloses the existence of a third strain of earth-dwellers. This strain has in addition to a pair of hands and legs also a pair of wings, and apparently *all of them* belonged to the less pigmented variety. None of the numerous skeletons so far examined seem to have belonged to this winged strain, and I concluded therefore that we have to deal here with images of an extinct variety. That this view is indeed correct can no longer be doubted, since we have determined that the winged forms are *much more frequently found among the older paintings than among the more recent paintings.*

I cannot of course describe to you here *all* the puzzling discoveries which we made within the confines of the "Grand Central Terminal," but I want to tell you at least about the most puzzling one, particularly since Xram is basing his war theory on it. This discovery arose out of the investigation of an insignificant detail. In the vast expanse of the "Grand Central Terminal" we came upon two smaller halls located in a rather hidden position. Each of these two halls (labeled "men" or "wo-men") contains a number of small cubicles which served as temporary shelter for earth-dwellers while they were depositing their excrements. The first question was how did the earth-dwellers locate these hidden depositories within the confines of "Grand Central Terminal." An earth-dweller moving about at random within this large building would have taken about one hour (on the average) to stumble upon one of them. It is, however, possible that the earth-dwellers located the depositories with the aid of olfactory guidance, and we have determined that if their sense of smell had been about thirty to forty times more sensitive than the rudimentary sense of smell of our own species, the average time required would be reduced from one hour to about five or ten minutes. This shows there is no real difficulty connected with this problem.

Another point was, however, much harder to understand. This problem arose because we found that the door of each and every cubicle in the depository was locked by a rather complicated gadget. Upon investigation of these gadgets it was found that they contained a number of round metal disks. By now we know that these ingenious gadgets barred the entrance to the cubicle until an additional disk was introduced into them through a slot; at that very moment the door became unlocked, permitting access to the cubicle. These "disks" bear different images and also different inscriptions which, however, all have in common the word "Liberty." What is the significance of these gadgets, the disks in the gadgets and the word "Liberty" on the disks?

Though a number of hypotheses have been put forward in explanation, consensus seems to veer toward the view that we have to deal here with a ceremonial act accompanying the act of deposition, similar perhaps to some of the curious ceremonial acts reported from the planets Sigma 25 and Sigma 43. According to this view, the word "Liberty" must designate some virtue which was held in high esteem by the earth-dwellers or else their ancestors. In this manner we arrive at a quite satisfactory explanation for the sacrificing of disks immediately preceding the act of deposition. But why was it necessary to make sure (or, as Xram says, to enforce), by means of a special gadget, that such a disk was in fact sacrificed in each and every case? This too can be explained if we assume that the earth-dwellers who approached the cubicles were perhaps driven by a certain sense of urgency, that in the absence of the gadgets they might have occasionally forgotten to make the disk sacrifice and would have consequently suffered pangs of remorse afterward. Such pangs of remorse are not unknown as a consequence of omissions of prescribed ceremonial performances among the inhabitants of the planets Sigma 25 and Sigma 43.

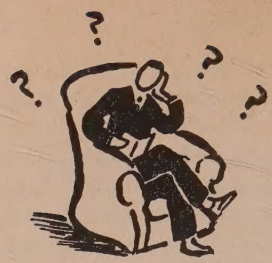
I think that this is on the whole as good an explanation as can be given at the present, and it is likely that further research will confirm this view. Xram, as I mentioned before, has a theory of his own which he thinks can explain everything, the disks in the gadgets as well as the uranium explosions which extinguished life. He believes that these disks were given out to earth-dwellers as rewards for services. He says that the earth-dwellers were *not* rational beings and that they would not have collaborated in cooperative enterprises without some special incentive. He says that, by barring earth-dwellers from depositing their excrements unless they sacrificed a disk on each occasion, they were made eager to acquire such disks and that the desire to acquire such disks made it possible for them to collaborate in cooperative efforts which were necessary for the functioning of their society. He thinks that the disks found in the depositories represent only a special case of a more general

principle and that the earth-dwellers probably had to deliver such disks not only prior to being given access to the depository but also prior to being given access to food, etc.

He came to talk to me about all this a couple of days ago; I am not sure that I understood all that he said, for he talked very fast as he often does when he gets excited about one of his theories. I got the general gist of it though, and what he says makes very little sense to me. Apparently, he has made some elaborate calculations which show that a system of production and distribution of goods based on a system of exchanging disks cannot be stable but is necessarily subject to great fluctuations vaguely reminiscent of the manic-depressive cycles of the insane. He goes as far as to say that in such a depressive phase war becomes psychologically possible even within the same species.

No one is more ready than I to admit that Xram is brilliant. His theories have invariably been proved to be wrong, but so far all of them had contained at least a grain of truth. In the case of his present theory the grain must be a very small grain indeed, and, moreover, this once I can *prove* that he is wrong.

In the last few days we made a spot check of ten different lodging houses of the city, selected at random. We found a number of depositories but not a single one that was equipped with a gadget, containing disks—not in any of the houses which we checked so far. In view of this evidence Xram's theory collapses. It seems now certain that the disks found in the depositories at "Grand Central Terminal" had been placed there as a ceremonial act. Apparently such ceremonial acts were connected with the act of deposition *in public places* and in public places only. I am glad that we were able to clear this up in time, for I should have been sorry to see Xram make a fool of himself by including his theory in the report. He is a gifted young man, and in spite of all the nonsensical ideas he can put forward at the drop of a hat, I am quite fond of him.



What Do You Think?

1. Do you think that the Baruch Plan proposals for the international control of atomic energy are now out of date as a result of changes in the total international relations scene? What was the essence of these proposals? What was the United States to do? What were to be the responsibilities of the Atomic Development Authority? Upon what bases did Russia reject the proposals? What were the basic differences between the Baruch Plan and the Russian proposals for atomic-energy control? In view of this changed international situation, do you support UN adoption of the Baruch Plan? Do you think that it would be better if the United States withdrew the plan?
2. What do you think would be the effect if the present stalemate in international control of atomic energy were to continue for several years? Do you think it is to the advantage of the United States? Of Russia and the Eastern bloc? Should such a situation, in your opinion, be avoided? At what cost?
3. Do you think that the people of the United States and their elected representatives in the federal government should be told how many atomic bombs we have? How is the problem of such secrecy related to the democratic control of foreign policy? Is information on the atomic stockpile needed in order to make the proper decisions on universal military training, the armed forces budget, the size of the air force, European recovery aid, the role of the Atomic Energy Commission, and so on? How would the release of this information, in your opinion, affect Russian policy? Why is stockpile secrecy defended? Do you think that these are valid for military security reasons? Do you think that the Bikini test reports should be released? Do you think that, when Russia and America are equally armed with atomic bombs, negotiation would become more possible and feasible? Upon what basis can negotiation proceed?
4. What proposals do you have for arriving at some solution to the problem of international atomic-energy control? Would you favor the inclusion of some type of atomic-energy control as a part of the Atlantic Pact? Should the United States call a conference of all the Atlantic Pact powers to draft a new atomic-energy proposal? Should the United Nations Atomic Energy Commission be revived and new efforts be made at a solution through UN?

More on This Topic

BRANDEIS, LOUIS D. *The Social and Economic Views of Mr. Justice Brandeis.* New York: Vanguard Press, 1930.

CARDOZO, BENJAMIN. *The Growth of the Law.* New Haven: Yale University Press, 1924.

———. *Nature of the Judicial Process.* New Haven: Yale University Press, 1921.

COMMAGER, H. S. "Keystone of the Constitution," *Scholastic*, November 3, 1948.

CORWIN, EDWIN S. *The Constitution and What It Means Today.* Princeton, N.J.: Princeton University Press, 1938.

CURTIS, CHARLES P. *Lions under the Throne.* Boston: Houghton Mifflin Co., 1947.

FRAENKEL, OSMOND K. "The Function of Lower Federal Court Judges as Protectors of Civil Liberties," *Law and Contemporary Problems*, winter, 1948. *This issue was devoted entirely to a symposium on the federal courts.*

FRANKFURTER, FELIX, and LANDIS, JAMES. *The Business of the Supreme Court.* New York: Macmillan Co., 1928.

HAMILTON, WALTON H. *The Power To Govern.* New York: W. W. Norton Co., 1937.

"House with a Yard," *Time*, May 17, 1948. *Discusses restrictive real estate covenants.*

JACKSON, ROBERT. *The Struggle for Judicial Supremacy.* New York: Alfred A. Knopf, 1941.

PRITCHETT, C. HERMAN. *The Roosevelt Court.* New York: Macmillan Co., 1948.

ROSTOW, EUGENE V. "The Price of Federalism," *Fortune*, December, 1948.

SWISHER, CARL B. *American Constitutional Development.* Boston: Houghton Mifflin Co., 1943.

WHITMAN, HOWARD. "Let's Have Competent Judges," *Reader's Digest*, November, 1948.

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